IN THE CLAIMS

Please amend the claims as indicated hereafter.

1-44 (CANCELED)

- 45. (PENDING) A method of metallizing a nanostructure, comprising the steps of: forming a nanosphere; metallizing the nanosphere with a metal; and forming a metallized nanosphere that has been metallized with the metal.
- 46. (PENDING) The method of claim 45, wherein the step of metallizing the nanosphere with the metal, includes metallizing a nanosphere with copper.
- 47. (PENDING) The method of claim 45, wherein the step of forming the metallized nanosphere, includes the step of forming a metallized copper nanosphere that has been metallized with about 3 weight percent copper.
- 48. (PENDING) The method of claim 45, wherein the step of metallizing the nanosphere with a metal, includes the step of metallizing a nanosphere with a metal selected from the group consisting of: copper, tin, aluminum, silver, platinum, palladium, iron, cobalt, and nickel.
- 49. (PENDING) The method of claim 45, wherein the step of forming the metallized nanosphere, includes the step of forming a metallized metal nanosphere, wherein the metal is selected from the group consisting of: copper, tin, aluminum, silver, platinum, palladium, iron, cobalt, and nickel.
- 50. (PENDING) The method of claim 45, wherein forming the nanosphere includes the step of forming a nanosphere under thermal conditions.

- 51. (CURRENTLY AMENDED) The method of claim 50, wherein the step of forming the nanowire nanosphere under thermal conditions comprises the step of forming a nanowire nanosphere in the temperature range of about 800 °C to about 1500 °C.
- 52. (PENDING) The method of claim 45, wherein forming the nanosphere includes the step of forming a nanosphere under non-catalytic conditions.
- 53. (CANCELLED)
- 54. (NEWLY ADDED) A method of preparing a nanosphere, comprising the steps of:

providing at least one composition selected from the group consisting: of a metal composition, a metal oxide composition, and combinations thereof, wherein the metal of the metal composition and the metal of the metal oxide are selected from the group consisting of tin, chromium, iron, nickel, silver, titanium, cobalt, zinc, platinum, palladium, osmium, gold, lead, iridium, molybdenum, vanadium, and aluminum;

exposing the composition to thermal conditions of about 800°C to about 1500°C and at a pressure from about 200 to 650 Torr;

vaporizing the composition while flowing an inert gas over the composition; forming a plurality of substantially monodisperse metal oxide nanospheres via a condensation reaction under non-catalytic conditions; and

metallizing the nanosphere with a metallization metal selected from the group consisting of: tin, iron, nickel, silver, cobalt, platinum, aluminum, and copper by contacting the nanospheres with a solution including a metallization metal complex.